

Title (en)

Use of safety glass in a green house and window element with such a safety glass

Title (de)

Verwendung eines Sicherheitsglases in einem Fensterelement eines Gewächshauses und Fensterelement mit einem derartigen Sicherheitsglas

Title (fr)

Utilisation de verre de sécurité pour une serre et élément de fenêtre comprenant un tel verre de sécurité

Publication

EP 1464769 A1 20041006 (DE)

Application

EP 04015454 A 20020809

Priority

- DE 10138376 A 20010811
- EP 02794594 A 20020809

Abstract (en)

Thermal insulation element has a cover, stretched over a base plate, which is flexible and makes it possible to change the volume of the space between the cover and base plate by changing the gas pressure. Independent claims are also included for the following: (1) roof window, especially for a greenhouse or solar collector, fitted with this element; (2) use of a safety glass with an anti-reflection coating in a window element of a greenhouse; (3) use of a safety glass with a porous silica (SiO₂) coating in a window element of a greenhouse; (4) use of a thermally pre-stressed safety glass with a porous SiO₂ coating in a window element of a greenhouse, in which the coating is produced from a specified hybrid sol.

Abstract (de)

Ein Fensterelement (2), das für einen Einsatz in einem Gewächshaus (1) besonders geeignet ist. Dazu umfasst das Fensterelement (2) erfindungsgemäß ein mit einer Antireflex-Beschichtung versehenes Sicherheitsglas. <IMAGE>

IPC 1-7

E04B 1/76; **E04D 13/03**; **A01G 9/24**; **E06B 3/28**; **E06B 9/24**; **F24J 2/40**; **C03C 17/25**; **C03C 17/00**; **G02B 1/11**

IPC 8 full level

A01G 9/14 (2006.01); **A01G 9/24** (2006.01); **C03C 1/00** (2006.01); **C03C 17/00** (2006.01); **E04B 1/78** (2006.01); **E04B 7/08** (2006.01); **E04C 3/18** (2006.01); **E04D 3/06** (2006.01); **E04D 3/08** (2006.01); **E04D 13/03** (2006.01); **E04H 15/20** (2006.01); **E06B 9/24** (2006.01); **F24J 2/50** (2006.01); **E04B 1/76** (2006.01); **E06B 3/28** (2006.01)

CPC (source: EP US)

A01G 9/1415 (2013.01 - EP); **A01G 9/24** (2013.01 - EP); **C03C 1/008** (2013.01 - EP); **C03C 17/007** (2013.01 - EP); **E04B 1/78** (2013.01 - EP); **E04B 7/08** (2013.01 - EP); **E04C 3/18** (2013.01 - EP); **E04D 3/06** (2013.01 - EP); **E04D 3/08** (2013.01 - EP); **E04D 13/03** (2013.01 - EP); **E04D 13/032** (2013.01 - EP US); **E04H 15/20** (2013.01 - EP); **E06B 9/24** (2013.01 - EP); **F24S 50/00** (2018.04 - EP); **F24S 80/56** (2018.04 - EP US); **F24S 80/58** (2018.04 - EP US); **F24S 80/60** (2018.04 - EP); **C03C 2217/213** (2013.01 - EP); **C03C 2217/425** (2013.01 - EP); **C03C 2218/113** (2013.01 - EP); **E04B 1/76** (2013.01 - EP); **E04D 2003/0887** (2013.01 - EP); **E04H 2015/203** (2013.01 - EP); **E06B 3/285** (2013.01 - EP); **Y02A 40/25** (2017.12 - EP); **Y02B 10/20** (2013.01 - EP); **Y02E 10/40** (2013.01 - EP)

Citation (applicant)

WO 0232823 A1 20020425 - FLABEG GMBH & CO KG [DE], et al

Citation (search report)

- [XA] DE 19918811 A1 20001102 - FRAUNHOFER GES FORSCHUNG [DE]
- [A] DE 19828231 A1 19990218 - MERCK PATENT GMBH [DE]
- [A] US 4775520 A 19881004 - UNGER KLAUS [DE], et al
- [A] US 4822120 A 19890418 - FAN JOHN C C [US], et al
- [A] DE 4240616 A1 19940609 - WESTSOLAR GMBH [DE]
- [A] US 4160523 A 19790710 - STEVENS GRAHAM A
- [PX] EP 1199288 A2 20020424 - MERCK PATENT GMBH [DE]
- [PX] DE 10051724 A1 20020502 - FLABEG GMBH & CO KG [DE]
- [XA] GLAUBITT W ET AL: "HIGH TRANSMISSION FLOAT GLASS FOR SOLAR APPLICATIONS", GLASS SCIENCE AND TECHNOLOGY, DEUTSCHE GLASTECHNISCHE GESELLSCHAFT, DE, vol. 73, no. 6, June 2000 (2000-06-01), Freiburg, pages 193 - 195, XP000936294, ISSN: 0017-1085

Cited by

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WO 03014486 A2 20030220; **WO 03014486 A3 20031113**; AT E537307 T1 20111215; AU 2002333388 A1 20030224; EP 1417386 A2 20040512; EP 1417386 B1 20111214; EP 1464769 A1 20041006

DOCDB simple family (application)

EP 0208949 W 20020809; AT 02794594 T 20020809; AU 2002333388 A 20020809; EP 02794594 A 20020809; EP 04015454 A 20020809